

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings of claims in the application:

Claims 1-11 (cancelled).

Claim 12 (original): A process of preparing a phosphor fluoride particle that emits light in the visible wavelength range when excited by long wavelength light that has a uniform particle size of less than 350 nanometers, which process comprises:

- a) preparing an aqueous solution of soluble salts of a phosphor host, an absorber/emitter pair and a rare-earth metal chelator; and
- b) contacting said prepared aqueous solution of soluble salts of said phosphor host, absorber/emitter pair and rare-earth metal chelator with an aqueous fluoride-containing compound at a temperature ranging from about 0°C to about 100°C for a sufficient time to obtain a precipitate of a phosphor fluoride particle; and
- c) heating said precipitate at a temperature ranging from about 300°C to about 450°C for a time ranging from about 1 hour to about 10 hours to obtain a phosphor fluoride particle that emits light in the visible wavelength range when excited by long wavelength light that has a uniform particle size of less than 350 nanometers.

Claim 13 (original): The process of claim 12, wherein the phosphor host is selected from the group consisting of yttrium, lanthanum and gadolinium.

Claim 14 (original): The process of claim 12, wherein the absorber is ytterbium and the emitter is selected from the group consisting of erbium, holmium, terbium and thulium.

Claim 15 (currently amended): The process of claim 12, wherein the rare-earth metal chelator is selected from the group consisting of ethylenediaminetetraacetic acid, triethylenetetraaminhexaacetic acid, ~~diethylenetriaminepentaacetic acid~~ diethylenetriaminepentaacetic acid, hydroxyethylethylenediaminetriacetic acid, 1,2-diaminocyclohexanetetraacetic acid, ethylene glycol bis (b-aminoethylether) tetraacetic acid and a salt thereof.

Claim 16 (original): The process of claim 12, wherein the aqueous fluoride-containing compound is selected from the group consisting of NaF, KF, NH₄F and HF.

Claim 17 (original): The process of claim 12, wherein the aqueous fluoride-containing compound is contained in an aqueous solution prior to or concurrently with contacting with the prepared aqueous solution of soluble salts of the phosphor host, the absorber/emitter pair and the rare-earth metal chelator.

Claim 18 (original): The process of claim 12, wherein the soluble salts of the phosphor host and the absorber/emitter pair are obtained by dissolving the corresponding metal oxide in hydrochloric acid or nitric acid and subsequently removing the residual acid.

Claim 19 (original): The process of claim 12, wherein the amount of the rare-earth metal chelator is about 0-1 times the amount of total rare-earth ions in the aqueous solution.

Claim 20 (original): The process of claim 12, further comprising coating the prepared phosphor fluoride particle with a transparent layer.

Claim 21 (original): The process of claim 20, wherein the transparent layer is SiO₂.

Claim 22 (original): The process of claim 20, further comprising coating the transparent layer coated phosphor fluoride particle with a layer of immobilized biological moiety.

Claims 23-32 (canceled).

Claim 33 (new): The process of claim 13, wherein the phosphor host is yttrium.

Claim 34 (new): The process of claim 14, wherein the absorber is ytterbium and the emitter is erbium.

Claim 35 (new): The process of claim 33, wherein the absorber is ytterbium and the emitter is erbium.